

**Supplementary Table 2. Summary of controlled studies including randomised controlled trials.**

Author	Study type	Sample characteristics	Follow-up duration	Intervention description	Control description	Withdrawals
Taylor <i>et al</i> 1998, <sup>18</sup> UK (additional results) <sup>36,38</sup>	RCT	142 adults (97 intervention, 45 control); age 40–70 years; practice records searched for patients with CHD risk factors	37 weeks	Introductory session including health check advice and demonstration; 20 half-price leisure centre sessions over 10 weeks with supervision on request; education leaflets on CHD	Education leaflets CHD prevention only	13 (13%) in intervention group did not attend any exercise sessions and 70 (72%) attended fewer than 15/20 sessions; 54 (38%) no data at final 37 week assessment
Stevens <i>et al</i> 1998, <sup>19</sup> UK	RCT economic evaluation (cost-effectiveness)	714 adults (363 intervention, 351 control); age 45–74 years; sample obtained from practice records and sent physical activity questionnaire to identify inactive individuals	8 months	10-week exercise programme with leisure centre and home-based activities	Written information by post about activity and health	237 (65%) in the intervention group attended the first consultation of the exercise programme; 299 (42%) did not return the 8 month questionnaire
Lamb <i>et al</i> 2002, <sup>22</sup> UK	RCT	260 adults (131 intervention, 129 control); age 40–70 years; sample obtained from practice records and sent physical activity questionnaire to identify inactive individuals (<120 minutes of moderate	1 year	Advice given in 30-minute group seminar; information about the local health walks programme; telephone invitation from walks co-ordinator and encouragement to join; free led walks, packs with routes, maps etc for independent walkers	Advice given in 30-minute seminar group only	86 (67%) in the intervention group did not attend any of the walks; 72 (27%) lost to follow-up at 12 months
Harrison <i>et al</i> 2004, <sup>20</sup> UK	RCT	545 adults (275 interventions, 270 control); referred by primary care clinicians based on existing criteria for the scheme; age over 18 years, sedentary, CHD risk factor	1 year	Initial consultation with tailored information and advice; subsidised 12 week leisure pass to leisure centres; information on other activities; written information pack	Written information pack only	43 (17%) in the intervention group did not attend the first consultation 233 (43%) questionnaires not returned at 12 months
Munro <i>et al</i> 2004 <sup>21</sup> UK (additional results) <sup>37</sup>	RCT; cluster randomisation; economic evaluation (cost-utility analysis of exercise programme costs only)	6420 adults (4 intervention practices with 2283 participants; 8 control practices with 4137 participants); age 65 years; sample obtained from practice records and sent to questionnaire to identify the least active 80%	2 years	Local, free, twice-weekly exercise classes, provided with 2 years in church halls, community centres and residential homes; exercises were aimed at improving balance, flexibility, mobility and strength; social time and other activities such as bowling and walking were incorporated	No invitation to exercise	1693 (74%) of those invited did not attend any of the classes; 2106 (92%) in the intervention group attended fewer than 60 sessions over 2 years; 2504 (39%) had missing health status outcome data
Fritz <i>et al</i> 2006, <sup>24</sup> Sweden	Non-randomised controlled study from separate populations	diabetes (27 intervention from one primary care clinic; 31 control from neighbouring primary care clinic); age 53–67 years; sample enrolled following public meeting, when visiting clinician, or by letter	4 months	Walking programme 45 minutes brisk walking 3 times weekly for a month	No walking	10 (37%) in the intervention group attended less than 80% of the walks; 6 (10%) (1 intervention; 5 control) were lost to follow-up
Isaacs <i>et al</i> 2007, <sup>23</sup> UK	RCT; economic centre group; evaluation (cost-effectiveness analysis health care costs, exercise programme costs)	949 adults randomised (317 leisure centre; 311 walking; 315 advice); age 40–74 years; referred by GP; inactive with CHD risk factor	12 months exercise interventions; 6 months advice then randomised to one of the exercise interventions	Supervised exercise classes 2–3 times per week in local leisure centres for 10 weeks; instructor led walking programmes 2–3 times per week for 10 weeks	Tailored advice and information on physical activity including local exercise facilities; NB degree of contamination in control group; 24% participated in walking programmes; 32% attended leisure centre or gym	24 (8%) in the leisure centre group; 73 (24%) in the walking group did not attend at all; 184 (58%) in the leisure centre group; 244 (78%) in the walking group attended <75% of sessions; 377 (40%) did not attend 6-month follow-up

CHD = coronary heart disease. GP = general practitioner. RCT = randomised controlled trial.

### Supplementary Table 3. Quality scores of controlled studies including RCTs.

Downes and Black item score	Taylor <i>et al</i> 1996 <sup>18, 36, 38</sup>	Stevens <i>et al</i> 1998 <sup>19</sup>	Lamb <i>et al</i> 2002 <sup>22</sup>	Harrison <i>et al</i> 2004 <sup>20</sup>	Munro <i>et al</i> 2004 <sup>21, 37</sup>	Fritz <i>et al</i> 2006 <sup>24</sup>	Isaacs <i>et al</i> 2007 <sup>23</sup>
<b>Reporting</b>							
Is the aim of the study clearly described?	1	1	1	1	1	1	1
Are the outcomes to be measured clearly described?	1	0	1	1	1	1	1
Are the characteristics of participants clearly described?	1	1	1	1	1	1	1
Are the interventions clearly described?	1	1	1	1	1	1	1
Are the distributions of principal confounders in each group described?	2	2	1	2	1	1	2
Are the main findings clearly described?	1	1	1	1	1	1	1
Can reader calculate estimates of variability in data for the main outcomes?	1	1	1	1	1	1	1
Have all important adverse effects been reported?	1	0	0	1	1	0	1
Have the characteristics of participants lost to follow-up been described?	1	0	1	0	0	0	1
Have confidence intervals or exact significance levels been reported?	1	1	1	1	1	1	1
<b>External validity</b>							
Were subjects asked to participate representative of their population?	0	0	1	0	0	0	0
Were those who agreed to participate representative of their population?	0	0	0	0	0	0	0
Were the staff/setting/facilities representative of those the majority receive?	1	1	1	1	1	1	1
<b>Internal validity — bias</b>							
Was there an attempt to blind those measuring the main outcomes?	0	0	1	0	0	0	0
If any results were based on 'data dredging', was this made clear?	1	1	1	1	1	0	0
Do analyses adjust for different lengths of follow-up?	1	1	1	1	1	1	1
Was the length of follow-up adequate?	1	0	1	1	1	0	1
Were the statistical tests used appropriate?	1	1	1	0	1	0	1
Was non-compliance reported appropriately?	1	0	1	1	1	1	1
Were the main outcome measures used valid and reliable?	1	1	1	1	1	1	1
<b>Internal validity — confounding (selection bias)</b>							
Were control and intervention subjects recruited from the same population?	1	1	1	1	1	0	1
Were participants recruited over the same time period?	1	1	1	0	1	1	1
Were study subjects randomised to intervention groups?	2	1	1	2	2	0	2
Was randomisation concealed from subjects and staff until after recruitment?	0	0	1	1	0	0	1
Was there adjustment for confounding in the analyses?	2	2	2	2	2	0	2
Were losses to follow-up taken into account?	0	1	1	0	0	1	1
<b>Power</b>							
Has an estimate of clinically important difference been specified?	1	0	2	1	1	0	1
Is the sample size adequate?	2	0	3	3	2	0	3
<b>TOTAL SCORE (MAXIMUM 34)</b>	<b>27</b>	<b>19</b>	<b>30</b>	<b>26</b>	<b>25</b>	<b>15</b>	<b>29</b>

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### Supplementary Table 4. Summary of observational studies.

Author	Study type	Sample characteristics	Response rate	Description of intervention	Comments
Jackson <i>et al</i> 1998, <sup>25</sup> UK	Postal survey	686 people who attended a GP exercise referral scheme in North Yorkshire between 1993 and 1996; adherers (466) completed the course; non-adherers (220) discontinued before 10 weeks	55% response rate out of 1254 sent a postal questionnaire	GP referral to 10 weeks' gym-based exercise sessions in a leisure centre	Exclusion of those who were referred but did not turn up for the initial consultation
Day and Nettleton 2001, <sup>26</sup> UK	Postal survey	129 patients who were referred to a GP exercise-referral scheme in Scotland between 1994 and 1996	40% response rate out of 324 who were sent a postal questionnaire	Referral for a consultation with a physical activity adviser; individual programmes including home-based and locally based activities as leisure centre activities	
Damush <i>et al</i> 2001, <sup>28</sup> US	Cohort	227 primary care patients who were aged 50 plus years, female and living in a deprived urban community	66% response rate out of 404 who were asked to complete a telephone survey; 113 (28%) took an exercise class and attended at least one exercise class	provision of exercise classes held on 5 days per week at a local community venue	
Dinan <i>et al</i> (individually tailored) 2006, <sup>27</sup> UK	Cohort	242 primary care patients aged 75 years or above, classified as borderline frail; referred to scheme	216 (87%) in scheme	chair-based strengthening exercises once weekly for 8 weeks in primary care setting, followed by transition to chair-based community centre	Discrepancies between numbers abstract and table

### Supplementary Table 5. Quality assessment of observational studies.

Adapted from Crombie item score	Jackson <i>et al</i> , 1998 <sup>25</sup>	Damush <i>et al</i> , 2001 <sup>28</sup>	Day <i>et al</i> , 2001 <sup>26</sup>	Dinan <i>et al</i> , 2006 <sup>27</sup>
<b>Design</b>				
Were the aims clearly stated?	1	1	0	1
Was the design appropriate to the stated objectives?	1	1	0	1
Was the sample size justified?	0	0	0	0
Were the measurements likely to be valid and reliable?	1	0	0	1
Were the statistical methods described?	1	1	0	1
Was there no suggestion of haste?	0	1	0	1
<b>Conduct</b>				
Did untoward events occur during the survey and were they reported?	0	0	0	0
<b>Analysis</b>				
Were the basic data adequately described?	1	1	0	1
Did the numbers add up?	1	1	0	0
Was the statistical significance assessed?	1	1	0	1
Were the findings not due to chance?	1	1	0	1
<b>Interpretation</b>				
Was the meaning of the main findings stated?	1	1	0	1
Was there an absence of selection bias?	0	0	0	0
Was there an interpretation of null findings?	0	0	0	0
Were important findings reported?	1	0	0	1
Could the results be generalised?	0	0	0	0
Were the results compared with previous reports?	0	0	0	0
Were the implications for clinical practice stated?	1	0	0	1
<b>TOTAL SCORE (MAXIMUM 18)</b>	<b>11</b>	<b>9</b>	<b>0</b>	<b>11</b>

### Supplementary Table 6. Summary of process evaluations.

Author	Sample characteristics	Follow-up duration	Intervention description	Comments
Lord and Green 1995, <sup>29</sup> UK	52 sedentary adults, 2 aged 18 to 65 years, especially those at risk of CHD but also mental health and other problems	6 months	3 sessions per week of up to 1 hour aerobic-based exercise, also access to tennis and cycling	
Cochrane and Davey 1998, <sup>30</sup> UK	396 participants; main reasons for referral were neck and back pain, arthritis, hypertension and obesity. No other details given	14 months	Twice-weekly sessions of leisure centre-based activities including swimming, aquarobics and aerobics as well as gym; 12 free sessions and reduced rate for more	Pilot study for a randomised controlled trial (Munro 2004) <sup>23</sup> only abstract available
Martin and Woolf-May 1999, <sup>31</sup> UK	77 (42 who finished the programme, 35 who did not); referred January 1994 to December 1997	Telephone interview in 1998	Initial consultation followed by 10 week fitness centre-based activity programme	Interviews were retrospective, up to 3 years later
Greater Glasgow Health Board 2001, <sup>32</sup> UK	751 participants; population not described. High-risk patients were not included in the evaluation although they were included in the scheme	12 months (analysis only at 3 and 4.5 months)	Initial consultation and counselling session with exercise professional followed by reduced-price access to leisure centres for 1 year	
Dugdill <i>et al</i> 2005, <sup>33</sup> UK	Population not described	12 months	12 week exercise-referral scheme not described	
Dugdill and Graham 2005, <sup>34</sup> UK	Sedentary adults with at least one CHD risk factor in Merseyside; referred March 2001 to February 2002	14 weeks	A 14 week supervised exercise programme at a leisure centre including three health assessments at baseline, middle and end of programme	

### Supplementary Table 7. Summary of qualitative studies.

Author	Study type	Sample characteristics	Intervention description	Comments
Lord and Green, 1998, <sup>30</sup> UK	Focus groups (qualitative component of process evaluation)	A random sample of 27 out of 252 participants (in pilot year) who were referred to a GP exercise-referral scheme	3 × 1 hour per week exercise sessions at leisure centre plus other activities (tennis, cycling) over 10 weeks	Did not include those who did not take up referral
Taylor and Fox, 1998, <sup>18</sup> UK (additional results) <sup>36</sup>	Semi-structured interviews (qualitative component of RCT)	97 in intervention group interviewed at 'mid-exercise' assessment, out of 142 participants referred to a GP exercise-referral scheme	Introductory session (health check, advice etc) then 20 half- price sessions over 10 weeks at leisure centre with supervision on request	Limited qualitative data. Interviews not recorded but notes taken and collated — summarised later
Martin and Woolf – May, 1999, <sup>31</sup> UK	Semi-structured telephone interviews (qualitative component of process evaluation)	77 participants who attended an initial consultation with an exercise adviser; 42 had completed the programme; 35 had not	Referral for a consultation with a physical activity adviser; and subsequent 10 week exercise programme in a gym	Telephone interviews which were up to 3 years after the referral, and were not recorded
Wormald and Ingle, 2004, <sup>35</sup> UK	Focus group	30 participants in five focus groups, who had attended at least one session of an exercise-referral scheme	GP exercise-referral scheme in 4 North Yorkshire leisure centres	Focus group only included a small number who declined or did not attend exercise scheme
Munro, <i>et al</i> , 2004, <sup>21</sup> UK (qualitative results) <sup>37</sup>	Interviews (qualitative component of RCT)	About 50 non-participants in an exercise-referral scheme	Twice-weekly exercise classes, provided for up to 2 years in church halls, community centres and residential homes	No detail of interview method or type of qualitative analysis

## Supplementary Table 8. Quality assessment of qualitative research papers.

Popay? <b>What does this mean?</b> item score	Lord and Green, 1995 <sup>30</sup>	Martin and Woolf-May, 1999 <sup>31</sup>	Taylor <i>et al</i> , 1998 <sup>18,36</sup>	Wormald and Ingle, 2004 <sup>35</sup>	Munro, 2004 <sup>21,37</sup>
A primary marker: is the researcher aiming to explore the subjective meanings that people give to particular experiences of interventions?	-	+/-	+/?	+	-
Context sensitive: has the research been designed in such a way to enable it to be sensitive/flexible to changes occurring during the study?	-	-	-	-/?	-
Sampling strategy: has the study sample been selected in a purposeful way shaped by theory and/or attention to diverse contexts and meanings that the study is aiming to explore?	-	-	-	-	-
Data quality: are different sources of knowledge/ understanding about issues being explored compared?	+/-	-	-	-	-
Theoretical adequacy: do the researchers make explicit the process by which they move from data to interpretation?	-	+/-	-	+	-
Generalisability: if claims are made to generalisability do these follow logically and/or theoretically from the data?	-	-	N/A	+/-	-

*Items are graded in terms of + item properly addressed; +/- item partially addressed; - item not properly addressed; ? unclear or not stated, +/? Item appears to have been partially addressed; -/? unable to determine if item assessed; N/A not applicable.*

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